



uncertainty impact on water resources assessment by population growth and global warming at 1.5°C and 2°C

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Global warming (GW) and population growth are likely to make different impact on water resources in the future. However, how and in what extent they change the water resources in the future have yet received much attention. Therefore, we carry out a research to investigate the projected changes in the quantity of terrestrial water resources influence made by population growth and mean global warming at 1.5°C and 2°C above preindustrial level. The change of water resources has been simulated by a global hydrological model driven by the global climate models (GCMs) with mean global temperature increased by 1.5°C and 2°C comparing to the preindustrial level. Then the UN-based population growth scenarios have been combined with GW to explore the impact made by increasing population growth to water resources. More comparisons of water resources changes between 1.5°C versus 2°C have been implemented. The results indicate that the mean annual precipitation increased in multiple regions when the global temperature increases by 2°C and 1.5°C . Population growth in most large river basins tends to be more crucial to water resources at 1.5°C , while global temperature becomes more dominant in a 2°C world. This study provides an insight of the global warming and population growth on the water resources. More studies are expected to be conducted to obtain a comprehensive understanding of climate change and anthropological impacts.